



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: LIPP, Eberhard

SERIAL NO.: 09/858,137

ART UNIT: 1723

FILED: May 15, 2001

EXAMINER: COOLEY, C.E.

TITLE: VERTICAL MIXER

Amendment C: CLAIM AMENDMENTS

Please cancel Claims 27 - 39 and substitute Claims 40 - 48 therefor as follows:

Claims 1- 26 (canceled). These claims were canceled by a previous amendment.

Claims 27 - 39 (canceled).

40. (new) A mixing and reducing machine comprising:

a housing having an interior volume;

an axle extending vertically within said housing, said axle being rotatably mounted in said housing;

a mixing spiral means affixed to said axle for conveying product upwardly in said housing, said mixing spiral means comprising:

a first spiral-shaped mixing blade affixed to said axle in a first position along a longitudinal axis of said axle and extending radially outwardly therefrom; and

a second spiral-shaped mixing blade affixed to said axle in a second position along the longitudinal axis of said axle and extending radially outwardly therefrom, said first position being separated from said second position by a transition zone, said transition zone

being passable directly therethrough from said first position to said second position, said first spiral-shaped mixing blade comprises a plurality of blade elements being connected and positioned adjacent each other in a circumferential direction, said second spiral-shaped mixing blade comprises a plurality of blade elements being connected and positioned adjacent each other in a circumferential direction.

41. (new) The machine of Claim 40, said blade elements of said first spiral-shaped mixing blade and said blade elements of said second spiral-shaped mixing blade having different capacities for axially conveyed quantities.

42. (new) The machine of Claim 40, said blade elements of said first spiral-shaped mixing blade having a helix angle that is different than a helix angle of said blade elements of said second spiral-shaped mixing blade.

43. (new) The machine of Claim 40, said blade elements of said first spiral-shaped mixing blade having a blade width that is different than a blade width of said blade elements of said second spiral-shaped mixing blade.

44. (new) The machine of Claim 40, said blade elements of said first spiral-shaped mixing blade having, a periphery with a rotational speed that is different than a rotational speed of a periphery of said blade elements of said second spiral-shaped mixing blade.

45. (new) The machine of Claim 40, each of said blade elements of said first and second spiral-shaped mixing blades having a lifting edge on a trailing end thereof bent upwardly in a rotational direction.

46. (new) The machine of Claim 40, wherein said blade elements are arranged essentially one above another and are connected through a blade carrier set in the rotational direction.

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47. (new) The machine of Claim 40, wherein said blade elements are attached through carrier arms onto said axle, a front surface thereof being chamfered in sections, increasing radially to said periphery.

48. (new) The machine of Claim 40, further comprising a shearing head affixed to a lower said second spiral-shaped mixing blade, said shearing head being aligned with said axle.